

ORDINANCE FOR THE CONTROL OF SOUND CROSSING OUTDOOR REAL PROPERTY BOUNDARIES

Section 1 Title

This Ordinance shall be known as the "Ordinance for the control of sound crossing outdoor real property boundaries in the County of Brunswick."

Section 2 Purpose

Loud sounds crossing private property boundaries are recognized to endanger physical and emotional health and welfare of the people, interfere with legitimate communication in business and recreation, interfere with sleep, increase construction costs, depress property values, offend the senses, create public nuisances, and in many ways reduce the quality of life.

A large body of science and technology exists that may be used in measuring sound and abating noise problems. The regulation of excessive sound is within the police powers of this governing body. Therefore, the declared purpose of this ordinance is to prevent, prohibit, and provide for the regulation and abatement of sound that may jeopardize human health or welfare or substantially degrade the quality of life.

The specific intent of this ordinance is to define *sufficient* objective criteria to establish that a sound crossing a real property boundary outdoors creates a nuisance, annoyance, interference with the useful enjoyment of property, or endangerment of health. This ordinance specifically does not define these criteria as a *necessary* condition for the proof of existence of these conditions or a civil cause of action. Specifically, it is recognized that a noise disturbance may exist in a quiet community for sounds that do not exceed the objective criteria of this ordinance.

Section 3 Definitions

- a. **Ambient Background Sound** - That sound normally present at a location when a sound source under investigation is not in operation.

- b. **A-Weighted Sound Level** - The sound level in decibels as measured on a sound level meter using the A-weighting network as defined in ANSI S1.42. In proper terminology, such a sound level should be stated for example as "The A-weighted sound level is 60 dB." In common practice this is

abbreviated as "The sound level is 60 dBA." The "A" added to "dB" to signify that the sound is A-weighted during the measurement.

c. **Construction** - On-site erection, fabrication, installation, alteration, repair, demolition or removal of any structure, facility, or addition thereto, including all related activities, including but not restricted to, clearing of land, earthmoving, blasting, landscaping, and paving.

d. **Commercial Land Use** - any tract or parcel of land used for commercial, office, or institutional purposes including retail sales and government facilities, but not including those uses that involve offering a place for sleep such as hospitals, rest and nursing homes, dormitories, hotels, motels, and campgrounds.

e. **Decibel (dB)** - a unit of level (see level) that denotes the ratio between two quantities that are proportional to power. The number of decibels is 10 times the logarithm (to the base 10) of this ratio. (When measuring sound, the square of the sound pressure is the quantity proportional to power.)

f. **Discrete Tone** - A sound that concentrated at a single frequency or few individual frequencies such that it is difficult to ignore and gives the sensation of a specific pitch. Examples are sirens, bells, whistles, and the whining sound produced by certain fans.

g. **Frequency** - the number of times in one second (ie, the number of cycles per second) that a periodic phenomenon, such as a sound wave, repeats itself. The unit of frequency is the Hertz (Hz).

h. **Hertz (Hz)** - The unit of frequency, formerly "cycles per second."

i. **Industrial Land Use** - Any tract or parcel of land used for manufacturing or commercial agriculture, not including the land within 50 feet of a farm residence.

j. **Level** - A measure defined by the logarithm of the ratio of a given power-like quantity to a reference quantity of the same kind.

k. **Loudspeaker** - A device actuated by an electrical signal that produces sounds controlled by the electrical signal. The sounds produced are usually a reproduction of speech or music or other sound encoded in the electrical signal.

- l. **Music** - A progressive combination of sounds, usually rhythmic, which in the opinion of the person producing or causing the sounds to be produced, and possibly others, is a pleasing artistic expression.
- m. **Musical Instrument** - Any device used in producing music.
- n. **Person** - Any individual, association, partnership, corporation, firm, association, trust, estate, public or private institution, group, or agency, including any officer, employee, department, agency or instrumentality of the State of North Carolina or any political subdivision of the State or any legal successor, representative, agent or agency of the foregoing.
- o. **Public Right-of-Way** - Any street, avenue, boulevard, highway, sidewalk, alley or similar place that is owned or controlled by a governmental entity.
- p. **Real Property Boundary** - An imaginary line along the ground surface, and its vertical extension, separating the real property owned by one person from that owned by another person, but not including real property divisions within buildings. Public Rights-of-Way that divide the property of one owner are not real property boundaries.
- q. **Repetitive Impulsive Sound** - Any sound composed of individual sounds lasting less than a second (such as hammer blows, drumbeats, or gunshots) that are repeated continuously at a rate such that a sound level meter set at "fast" time-weighting will show changes in sound level greater than 10 dB between individual sounds, while the same meter set on "slow" time-weighting will show changes of less than 5 dB between the individual sounds.
- r. **Residential Land Use** - Any tract or parcel of land used or zoned for residential or sleeping purposes, including, but not limited to, land on which is located private homes, apartments, hospitals, nursing homes, rest homes, hotels, motels, dormitories, and campgrounds.
- s. **Sound** - An oscillation in pressure, particle displacement, or particle velocity, in a medium with internal forces that cause compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, amplitude, and frequency.

- t. **Sound Level Meter** - An instrument for measuring sound levels meeting standards ANSI S1.4 and IEC 651, which for the purposes of this ordinance must include the A-weighting network, slow time-weighting, fast time weighting, and ability to measure the time-average sound level over a period as defined in the standards.
- w. **Sound Pressure Level** - In decibels, 10 times the logarithm (to the base 10) of the ratio of the square of a sound pressure to the square of the reference sound pressure of 20 microPascals.
- x. **Speech** - A meaningful combination of sounds produced by the human voice or a reproduction of such sounds by a loudspeaker.
- y. **Time-Average Sound Level** - The level of an equivalent steady sound that over a stated period for a stated location has the same sound energy as an actual sound that may be varying in level over the stated period.
- z. **Weekend** - Means that period of time between 12:00 midnight on Friday to 12:00 midnight on Sunday.

Section 4 Maximum Permissible Sound Levels and Prohibition of Noise Disturbance

- a. **Prohibition of Noise Disturbance** - No person shall cause or allow the emission of sound across a real property boundary onto the property of another person that does any of the following.
- (1.) Endangers or injures the safety or health of humans or animals.
 - (2.) Annoys or disturbs a reasonable person of normal sensitivities.
 - (3.) Endangers or injures personal or real property.
 - (4.) Operating, playing, or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, or similar device which produces or reproduces sound between the hours of 10:00 p.m. and 7:00 a.m. on weekdays and 11:00 p.m. and 9:00 a.m. on weekends in such a manner as to create excessive and unnecessary noise across a residential real property line.

b. **Maximum Permissible A-weighted Sound Levels** - No person shall cause or allow the emission of sound across a real property boundary onto the property of another person such that any of the following conditions occur when the sound is measured according to Section 10 of this ordinance consistent with the requirements of Section 5 of this ordinance except as permitted in Sections 6, or 7 of this ordinance.

(1.) The limits of Table A are exceeded by more than 10 dB at any time when measured with slow time weighting.

(2.) The limits of Table A are exceeded for more than 90 seconds continuously when measured with slow time weighting.

(3.) The limits of Table A are exceeded by the time-average sound level measured over a period of 15 minutes with a sound level meter capable of measuring the time-average sound level.

TABLE A. SOUND LEVELS IN DECIBELS BY LAND USE

Land use of measurement site>	Residential	Residential	Commercial	Industrial
Time of day>	10:00pm-7:00am	7:00am-10:00pm	Anytime	Anytime
A-weighted Sound Level, dB>	55	60	65	70

Note - For any sound identified by the measuring officer as speech, music, repetitive impulsive, or a discrete tone, the limits of Table A are all reduced by 5 dB except when the measurement is made on an Industrial Land Use.

Note - For any sound identified by the measuring officer as dominated by gunshots, the limit will be a time-average sound level for 15 minutes that is 10 dB less than the indicated limits in Table A, except when the measurement is made on an Industrial Land Use.

Section 5 Proof of Source and Ambient Background Level

A source of sound shall not be deemed in violation of Section 4 of this ordinance if, after the source is stopped, the sound level measured in the same manner as the measurement that produced the apparent violation is reduced by less than three decibels. All individual sources of sound on a single parcel of real property shall be considered a single source.

If the sound is intermittent, and exceeds the maximum allowed sound level, the measuring officer may establish the 3 dB differential when the source is not operating. Otherwise, if the sound levels as measured exceed any appropriate level of Table A, and the measuring officer can clearly identify the dominant offending sound source, the measuring officer shall attempt to contact the operator of the sound source. If successful, the measuring officer shall inform the operator of the following facts and offer to make sound level measurements with the source stopped.

- a. The sound source in question is in apparent violation of the ordinance.
- b. The owner/operator of the sound source will be considered in violation of the ordinance until operations are ceased or actions taken to reduce the sound level at the point of violation.
- c. The ordinance provides the opportunity for the owner/operator to demonstrate that the sound source in question is not the primary cause of the high sound levels and not in violation by ceasing operations to allow further measurements.

If the owner/operator ceases operation of the sound source, the enforcing officer shall measure the ambient background sound in the same manner and at the same location as the original measurements. If the ambient background sound so measured is within 3 dB of the original measurements, no violation has been shown, and the owner/operator shall be informed so operations of the sound source may continue. In this case, the enforcing officer shall make it clear to the owner/operator that measurements at another time, at another location, or (if appropriate) using a different criteria in the ordinance, could yield a different result.

Section 6 Construction

When the source of sound is a construction operation, the sound level limits shall be 10 dB higher than indicated in Table A including the Notes, except in residential land uses between the hours of 10:00

pm and 7:00 am the following morning. No provision is made for temporary permits to exceed these limits.

Section 7 Exceptions

The limits of Section 4 apply to all sources except construction sound and those listed below in this section, and no provision is made for any temporary exceptions for any other sources.

- a. The sound of emergency warning devices such as sirens and horns legally used.
- b. The sound of vehicles traveling on public rights-of-way, unless such vehicle is stopped and is producing sound by use of a bell, loudspeaker, or other device for the purpose of attracting attention (for other than an emergency warning) or for the entertainment of the occupant(s) or owner of the vehicle.
- c. The sound of aircraft while in the air, except unoccupied scale model aircraft.
- d. Sounds associated with railroad operations.
- e. The sounds of lawn and garden care equipment used between 7:00 am and 9:00 pm on weekdays and 9:00 a.m. and 9:00 p.m. on weekends, provided gasoline- fueled engines have a functioning muffler.
- f. The sounds of agricultural tractors and self-propelled harvesting equipment used between 7:00 am and 10:00 pm, provided such tractors and equipment have functioning mufflers.
- g. Non-amplified crowd noises resulting from activities such as those planned by student, governmental, or community groups.
- h. Music produced by school bands while practicing or performing on school property.
- i. Sounds due to emergency work to provide electricity, water, or other public utilities when public health or safety are involved including the operation of emergency generators.
- j. The testing or exercise of emergency generators but not the routine use of such generators in non-emergency situations for generation of power to reduce use of public utility power.

k. The sound of chimes or bells of schools or religious institutions for any length of time in the daytime hours between 7:00 am and 10:00 pm.

Section 8 Burden of Proof Regarding Exceptions

The person who would benefit from the application of any exception set out in this ordinance shall have the burden of proving that the exception applies and that the terms of the exception have been met.

Section 9 Enforcement

The Sheriff's Department shall have primary responsibility for enforcing this ordinance and shall investigate and pursue possible violations of this ordinance.

Section 10 Measurement Requirements

Instrumentation used for enforcement of this ordinance shall be designated by its manufacturer as meeting the precision requirements of IEC 651 or ANSI S1.4 for Type 1 or Type 2 sound level meters as defined in those standards. Except as otherwise allowed in this paragraph, all measurements shall be made using "slow" time-weighting. "Fast" time-weighting may be used to identify a repetitive impulsive sound. The time-average sound level may be measured with either a meter that samples the "slow" response level, or one that measures the time-average sound level directly. A windscreen approved by the manufacturer of the instrument shall be used on the microphone when making measurements. The instrument calibration shall be checked (and adjusted if necessary) using an external calibration device within at least one hour before the measurement, and checked again within one hour after the measurement. All measurements shall be made at a height of at least 4 feet from the ground. They shall be made at least 10 feet from any building, tree trunks, vehicles, or other obstruction other than the person making the measurement. Measurements may be made with the permission of the property owner on any property other than the property containing the suspected excessive sound source, and other than a public right-of-way. The data record shall contain the data, descriptions of the apparent source of the dominant noise and its apparent location, the location of the measurements, the approximate time of the measurements, and sufficient information to identify the instruments used. The measuring officer shall take care that measurements are not controlled by sound excepted by Section 7 of this ordinance. The County shall develop and document operating procedures for the guidance of its officers and agents in making measurements. A copy of those procedures shall be made available to any person upon request.

Section 11 Interference with Enforcement

It shall be unlawful for any person to interfere, using interfering sound or otherwise, with the taking of sound level measurements or the enforcement of this ordinance.

Section 12 Changes of Land Use

If an Industrial Land Use property is converted to commercial or residential use, or a Commercial Land Use property is converted to residential use, the land use designation of such property for purposes of this ordinance shall not be changed if the sound existing on the property (from sources outside the property) at the time of the conversion would then violate this ordinance. However, if the sound existing on the property at the time of the conversion would be in compliance with the requirements of the new land usage, then the owner of the converted property may petition the County Commissioners to change the designation of the property for purposes of this ordinance. The County Commissioners shall consider the interests of all neighboring property owners before deciding whether to make the change.

Section 13 Penalties and Remedies

Any violation of this ordinance shall subject the offender to a civil penalty in the amount of \$50.00 for each offense. Each day of violation shall be considered a separate violation. If a violation exceeds the appropriate limit by more than 10 decibels, the penalty shall be doubled. Failure to pay the civil penalty within sixty (60) days after demand for payment is made shall subject the offender to civil action in the appropriate court of jurisdiction for recovery of the penalty.

Any subsequent violation within a 12-month period of a first violation after the enactment of this ordinance shall subject the violator to a civil penalty of \$100.00 for each subsequent violation. For purposes of determining subsequent violations within a 12-month period, the date of the first violation from and after the enactment of this section shall be the anniversary date from which a new 12-month period shall begin.

In addition to or instead of a civil penalty, any violation of this ordinance may be prosecuted as a misdemeanor punishable by a fine of not more than \$50 or imprisonment for not more than thirty days in accordance with G.S. 14-4 and G.S. 153A-123.

In addition to any other remedy, whenever the Sheriff has reasonable cause to believe that an offender continues to violate any provisions of this ordinance, the County may seek injunctive relief in the appropriate court of jurisdiction to halt operation of the sound producing the violation. The institution of an action for injunctive relief shall not relieve any party to such proceeding from any civil or criminal penalty prescribed for violations of this ordinance.

Section 14 Other Remedies

No provision of this ordinance shall be construed to impair any common law or statutory cause of action or legal remedy of any person for injury or damage to person or property, arising from violation of this ordinance or arising from sound crossing a property boundary that does not violate this ordinance.

Section 15 Severability

If any provision, clause, sentence or paragraph of this ordinance or the application thereof to any person or in any circumstance shall be held to be invalid, such invalidity shall not affect the validity of the other provisions or applications of this ordinance as a whole or of any part, sub-part, sentence, or clause thereof not held to be invalid, and to this end the provisions of this ordinance are hereby declared to be severable.

Section 16 Effective Date

This ordinance shall become effective on (date).